



WHEN ARE STORM WATER DISCHARGES REGULATED AS CLASS V WELLS?



Audience: This fact sheet is for National Pollutant Discharge Elimination System (NPDES) program regulators and permit writers.

Purpose: To increase awareness that storm water drainage wells are regulated as Class V injection wells and to ensure that NPDES regulators understand the minimum federal requirements under the Safe Drinking Water Act (SDWA) for the Underground Injection Control (UIC) Program.

ARE STORM WATER DRAINAGE WELLS REGULATED BY THE UIC PROGRAM?

Yes. These wells are regulated by EPA and primacy states through the UIC Program as Class V injection wells with requirements to protect underground sources of drinking water (USDWs). A USDW is defined as an aquifer that contains less than 10,000 mg/L total dissolved solids and is capable of supplying water to a public drinking water system.

Class V storm water drainage wells are typically shallow disposal wells designed to place rain water or melted snow below the land surface. By definition, a Class V injection well is any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a subsurface fluid distribution system.

Storm water management strategies that include subsurface drainage must comply with UIC Program regulations.

WHY ARE STORM WATER DRAINAGE WELLS A CONCERN?

State and federal UIC Program representatives are concerned that there may be a dramatic increase in the use of Class V wells as a NPDES Best Management Practice (BMP) to dispose of storm water. Using an injection well may be easier and less expensive than obtaining a NPDES permit for surface discharge. A significant percentage of storm water drainage wells may have the potential to harm USDWs. The runoff that enters storm water drainage wells may be contaminated with sediments, nutrients, metals, salts, fertilizers, pesticides, or microorganisms.

WHAT ARE SOME EXAMPLES OF STORM WATER DRAINAGE WELLS?

The broad definition of Class V wells results in a variety of storm water injection well configurations, including:

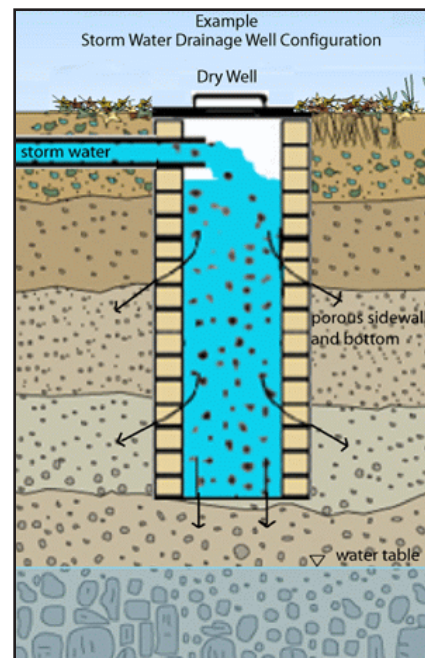
- Dry wells
- Bored wells
- Infiltration galleries

The underground injection well definition applies to subsurface drainfields that release fluids underground. These can include French drains, tile drains, infiltration sumps, and percolation areas with vertical drainage. Improved sinkholes designed for storm water management are also considered Class V storm water drainage wells. These wells are natural karst depressions or open fractures that have been intentionally altered to accept and drain storm water runoff. The infiltration gallery shown in the figures overleaf is a Class V injection well and subject to UIC requirements.

WHAT INFILTRATION SYSTEMS ARE NOT STORM WATER DRAINAGE WELLS?

Two types of infiltration systems are not considered storm water drainage wells:

- **Infiltration trenches** are excavated trenches filled with stone (no piping or drain tile) to create an underground reservoir. They are usually wider than they are deep.
- **Surface impoundments or ditches** are excavated ponds, lagoons, and ditches (lined or unlined, without piping or drain tile) with an opened surface. They are used to hold wastewater prior to disposal or treatment. These devices **would be** considered Class V injection wells, however, if they include subsurface fluid distribution systems.





Picture and schematic drawing of parking lot infiltration (Source: Louisiana Department of Transportation)

Storm water drainage well designs can be as varied as the engineers who design them. A fluid distribution system that discharges underground through piping is typically the defining characteristic. If you are unsure about the classification of your infiltration system, contact your UIC Program representative for clarification.

HOW ARE STORM WATER DRAINAGE WELLS REGULATED?

Under the minimum federal requirements, storm water drainage wells are “authorized by rule” (40 CFR 144). This means that storm water drainage wells do not require a permit if **they do not** endanger USDWs **and they comply with** federal UIC Program requirements. The prohibition on endangerment means the introduction of any storm water contaminant must not result in a violation of drinking water standards or otherwise endanger human health. Primacy states may have more stringent requirements.

Federal program requirements include:

- Submitting basic inventory information about the storm water drainage wells to the state or EPA. (Contact your UIC Program to learn what inventory information must be submitted and when.) In some cases, the information may be required prior to constructing the well.
- Constructing, operating, and closing the drainage well in a manner that does not endanger USDWs.
- Meeting any additional prohibitions or requirements (including permitting or closure requirements) specified by a primacy state or EPA region.

HOW CAN I HELP PREVENT NEGATIVE IMPACTS FROM STORM WATER DRAINAGE WELLS?

As a NPDES storm water permit writer or regulator, you can help to ensure that current and future storm water system operators using Class V wells understand and meet regulatory requirements under the UIC Program. You can also help them identify storm water drainage systems that may affect USDWs, and recommend BMPs to protect USDWs. BMPs for storm water drainage wells may address well siting, design, and operation, as well as education and outreach to prevent misuse.

FOR MORE INFORMATION...

EPA's Office of Ground Water and Drinking Water Web Site:

<http://www.epa.gov/safewater>

UIC Program Contacts:

<http://www.epa.gov/safewater/uic/primacy.html>

Safe Drinking Water Hotline:

1-800-426-4791

**Office of Ground Water and
Drinking Water (4606M)**

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